

WHAT IS CLAIMED IS:

1. A device for electrostimulating tissue of internal body cavities, comprising:  
a pulse generator, for generating electrostimulating pulses;  
a power source, in electrical communication with said pulse generator;  
5 a casing, which encapsulates and seals said pulse generator and said power source,  
within;  
a first stimulating electrode, in electrical communication with said pulse generator,  
physically fixed to said casing and having a conducting surface, external to said casing, for making  
contact with said tissue; and  
10 a second stimulating electrode, in electrical communication with said pulse generator,  
said second stimulating electrode being operative as a mobile electrode, wherein in a first  
conformation, adapted for insertion into said cavity, said second stimulating electrode is in close  
contact with said casing, and in a second conformation, adapted for electrostimulation, said second  
stimulating electrode is detached from said casing, tethered to said pulse generator, by an insulated  
15 conducting cable.
2. The device of claim 1, wherein said first conformation is maintained by an  
encapsulating material, which dissolves in the digestive system.
- 20 3. The device of claim 1, wherein said first conformation is maintained by glue, which  
is diluted in the digestive system.
4. The device of claim 1, wherein said first conformation is maintained by a lubricant

which is diluted in the digestive system.

5. The device of claim 1, wherein said device is adapted for ingestion.

5 6. The device of claim 1, wherein said device is adapted for insertion via a catheter.

7. The device of claim 6, wherein said device further includes a medication window,  
for applying medication to a specific location.

10 8. The device of claim 1, and Rather including an impedance modulator, for applying  
electrostimulation, which is proportional to measured tissue impedance, in synchrony with cycles  
of said tissue impedance.

9. The device of claim 1, wherein said power source is a galvanic cell.

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10. The device of claim 9, and further including a voltage converter, for converting  
voltage generated by said galvanic cell to an operating voltage fir said pulse generator.

11. The device of claim 1, wherein said insulated conducting cable by which said second  
20 stimulating electrode is tethered, is designed as a spring, which is in compression in said first  
conformation, and which maintains said first and second electrodes apart in said second  
conformation.

12. A device for electrostimulating tissue of internal body cavities, comprising:  
a pulse generator, for generating electrostimulating pulses;  
a power source, in electrical communication with said pulse generator;  
a casing, which encapsulates and seals said pulse generator and said power source,

5 within;

first and second stimulating electrodes, in electrical communication with said pulse generator, and having conducting surfaces, external to said casing, for making contact with said tissue; and

an impedance modulator, comprising an impedance probe, for applying  
10 electrostimulation, which is proportional to measured tissue impedance, in synchrony with cycles of said tissue impedance.

13. The device of claim 12, wherein said device is adapted for ingestion.

15 14. The device of claim 12, wherein said device is adapted for implantation.

15. The device of claim 12, wherein said device is adapted for insertion via a catheter.

16. The device of claim 15, wherein said device further includes a medication window,  
20 for applying medication to a specific location.

17. The device of claim 12, wherein said power source is a galvanic cell.

18. The device of claim 17, and further including a voltage converter, for converting voltage generated by said galvanic cell to an operating voltage for said pulse generator.

19. The device of claim 12, wherein said first stimulating electrode, is physically fixed to said casing, and wherein said second stimulating electrode, is operative as a mobile electrode, wherein in a first conformation, adapted for insertion into said cavity, said second stimulating electrode is in close contact with said casing, and in a second conformation, adapted for electrostimulation, said second stimulating electrode is detached from said casing, tethered to said pulse generator, by an insulated conducting cable.

20. The device of claim 19, wherein said insulated conducting cable by which said second stimulating electrode is tethered, is designed as a spring, which is in compression in said first conformation, and which maintains said first and second electrodes apart in said second conformation.

21. A device for electrostimulating tissue of internal body cavities, comprising:  
a pulse generator, for generating electrostimulating pulses;  
first and second stimulating electrodes, in electrical communication with said pulse generator, and having conducting surfaces, adapted for making contact with said tissue;  
a casing, which forms a first chamber, which encapsulates and seals said pulse generator from body fluids; and  
a power source, fanned as a galvanic cell, for powering said pulse generator.

22. The device of claim 21, wherein said galvanic cell comprises:

an inner space, formed as a second chamber of said casing, said second chamber having portholes for admitting body fluids to said inner space; and

a third electrode, located within said inner space, having a different electrochemical potential from said first electrode, and forming an electrical circuit with said first electrode, said circuit being closed by body fluids within said inner space.

23. The device of claim 21, wherein said galvanic cell comprises:

an inner space, formed as a second chamber of said casing, said second chamber having portholes for admitting body fluids to said inner space; and

third and fourth electrodes, located within said inner space, having a different electrochemical potential between them, and forming an electrical circuit, said circuit being closed by body fluids within said inner space.

24. The device of claim 21, and further including a voltage converter, for converting voltage generated by said galvanic cell to an operating voltage for said pulse generator.

25. The device of claim 21, wherein said device is adapted for ingestion.

26. The device of claim 21, wherein said device is adapted for implantation.

27. The device of claim 21, wherein said device is adapted for insertion via a catheter.

28. The device of claim 27, wherein said device farther includes a medication window, for applying medication to a specific location.

29. The device of claim 21, wherein said first stimulating electrode, with which said galvanic cell is formed, is physically fixed to said casing, and wherein said second stimulating electrode, is operative as a mobile electrode, wherein in a first conformation, adapted for insertion into said cavity, said second stimulating electrode is in close contact with said casing, and in a second conformation, adapted for electrostimulation, said second stimulating electrode is detached front said casing, tethered to said pulse generator, by an insulated conducting cable.

30. The device of claim 29, wherein said insulated conducting cable by which said second stimulating electrode is tethered, is designed as a spring, which is in compression in said first conformation, and which maintains said first and second electrodes apart ira said second conformation.

31. The device of claim 21, and further including an impedance modulator, for applying electrostimulation, which is proportional to measured tissue impedance, in synchrony with cycles of said tissue impedance.

32. A method for electrostirnulating tissue of internal body cavities, comprising:  
employing a device for electrostimulating tissue of internal body cavities, which includes:

a pulse generator, for generating electrostimulating pulses;

a power source, in electrical communication with said pulse generator;  
a casing, which encapsulates and seals said pulse generator and said power source,  
within;

a first stimulating electrode, in electrical communication with said pulse generator,  
5 physically fixed to said casing and having a conducting surface, external to said casing, for making  
contact with said tissue; and

a second stimulating electrode, in electrical communication with said pulse generator,  
said second stimulating electrode being operative as a mobile electrode, wherein in a first  
conformation, adapted for insertion into said cavity, said second stimulating electrode is in close  
10 contact with said casing, and in a second conformation, adapted for electrostimulation, said second  
stimulating electrode is detached from said casing, tethered to said pulse generator, by an insulated  
conducting cable;

inserting said device into said cavity in said first conformation, wherein said second  
stimulating electrode is in close contact with said casing; and

15 electrostimulating said tissue in said second conformation, wherein said second  
stimulating electrode is detached from said casing, tethered to said pulse generator, by said insulated  
conducting cable.

33. The method of claim 32, wherein said first conformation is maintained by an  
20 encapsulating material, which dissolves in the digestive system.

34. The method of claim 32, wherein said first conformation is maintained by glue,  
which is diluted in the digestive system.

35. The method of claim 32, wherein said first conformation is maintained by a lubricant which is diluted in the digestive system.

36. The method of claim 32, wherein said device is adapted for ingestion.

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37. The method of claim 32, wherein said device is adapted for insertion via a catheter.

38. The method of claim 37, and further including applying medication via said catheter.

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39. The method of claim 32, wherein said device further includes an impedance modulator, for applying electrostimulation, which is proportional to measured tissue impedance, in synchrony with cycles of said tissue impedance.

40. The method of claim 32, wherein said power source is a galvanic cell.

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41. The method of claim 40, and further including converting voltage generated by said galvanic cell to an operating voltage for said pulse generator.

42. The method of claim 32, wherein said Insulated conducting cable by which said  
20 second stimulating electrode is tethered, is designed as a spring, which is in compression in said first conformation, and which maintains said first and second electrodes apart in said second conformation.



43. A method for electrostimulating tissue of internal body cavities, comprising:  
employing a device for electrostimulating tissue of internal body cavities, which  
includes;

a pulse generator, for generating electrostimulating pulses;

5 a power source, in electrical communication with said pulse generator;

a casing, which encapsulates and seals said pulse generator and said power source,  
within;

first and second stimulating electrodes, in electrical communication with said pulse  
generator, and having conducting surfaces, external to said casing, for making contact with said  
10 tissue; and

an impedance modulator, comprising an impedance probe, for applying  
electrostimulation, which is proportional to measured tissue impedance, in synchrony with cycles  
of said tissue impedance;

measuring tissue impedance; and

15 electrostimulating said tissue, wherein the electrostimulation is proportional to  
measured tissue impedance, in synchrony with cycles of said tissue impedance.

44. The method of claim 43, wherein said device is adapted for ingestion.

20 45. The method of claim 43, wherein said device is adapted for implantation.

46. The method of claim 43, wherein said device is adapted for insertion via a catheter.

47. The method of claim 46, and further including applying medication via said catheter.

48. The method of claim 43, wherein said power source is a galvanic cell.

5 49. The method of claim 43, and further including converting voltage generated by said galvanic cell to an operating voltage for said pulse generator.

50. The method of claim 43, wherein said first stimulating electrode, is physically fixed to said casing, and wherein said second stimulating electrode, is operative as a mobile electrode,  
10 wherein in a first conformation, adapted for insertion into said cavity, said second stimulating electrode is in close contact with said casing, and in a second conformation, adapted for electrostimulation, said second stimulating electrode is detached from said casing, tethered to said pulse generator, by an insulated conducting cable

15 51. The method of claim 50, wherein said insulated conducting cable by which said second stimulating electrode is tethered, is designed as a spring, which is in compression in said first conformation, and which maintains said first and second electrodes apart in said second conformation.

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52. A method for electrostimulating tissue of internal body cavities, comprising:  
employing a device for electrostimulating tissue of internal body cavities, which includes:

a pulse generator, for generating electrostimulating pulses;

first and second stimulating electrodes, in electrical communication with said pulse generator, and having conducting surfaces, adapted for making contact with said tissue;

a casing, which forms a first chamber, which encapsulates and seals said pulse

5 generator from body fluids; and

a power source, formed as a galvanic cell, for powering said pulse generator,

powering said pulse generator by said galvanic cell; and

electrostimulating said tissue.

10 53. The method of claim 52, wherein said galvanic cell comprises:

an inner space, formed as a second chamber of said casing, said second chamber having portholes for admitting body fluids to said inner space; and

a third electrode; located within said inner space, having a different electrochemical potential from said first electrode, and forming an electrical circuit with said first electrode, said

15 circuit being closed by body fluids within said inner space.

54. The method of claim 52, wherein said galvanic cell comprises:

an inner space, formed as a second chamber of said casing, said second chamber having portholes for admitting body fluids to said inner space; and

20 third and fourth electrodes, located within said inner space, having a different electrochemical potential between them, and forming an electrical circuit said circuit being closed by body fluids within said inner space.

55. The method of claim 52, and further including converting voltage generated by said galvanic cell to an operating voltage for said pulse generator.

56. The method of claim 52, wherein said device is adapted for ingestion.

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57. The method of claim 52, wherein said device is adapted for implantation.

58. The method of claim 52, wherein said device is adapted for insertion via a catheter.

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59. The method of claim 58, and further including applying medication via said catheter.

60. The method of claim 52, wherein said first stimulating electrode, with which said galvanic cell is formed, is physically fixed to said casing, and wherein said second stimulating electrode, is operative as a mobile electrode, wherein in a first conformation, adapted for insertion into said cavity, said second stimulating electrode is in close contact with said casing, and in a second conformation, adapted for electrostimulation, said second stimulating electrode is detached from said casing, tethered to said pulse generator, by an insulated conducting cable.

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61. The method of claim 60, wherein said insulated conducting cable by which said second stimulating electrode is tethered, is designed as a spring, which is in compression in said first conformation, and which maintains said first and second electrodes apart in said second conformation.

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62. The method of claim 52, wherein said device further includes an impedance modulator, for applying electrostimulation, which is proportional to measured tissue impedance, in synchrony with cycles of said tissue impedance.